

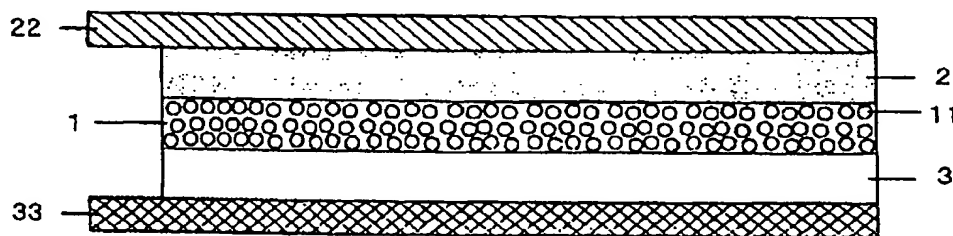
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## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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<b>(21) International Application Number:</b> PCT/KR99/00797 <b>(22) International Filing Date:</b> 21 December 1999 (21.12.99) <b>(30) Priority Data:</b> 1998/57030      22 December 1998 (22.12.98)      KR <b>(71) Applicant (for all designated States except US):</b> FINECELL CO., LTD. [KR/KR]; Room No. Ka-Dong 407, Factory Apt., 150 Yatap-Dong, Pundang-Gu, Sungnam-City, Kyungki-Do 463-070 (KR). <b>(71)(72) Applicants and Inventors:</b> JANG, Dong, Hun [KR/KR]; 8-403 Hanyang Apt., 388-33 Ssangmun-Dong, Dobang-Gu, Seoul 132-033 (KR). KIM, Sa, Heum [KR/KR]; 138-1202 Hansung Mokhwa Apt., 880 Keumjung-Dong, Kungpo-City, Kyungki-Do 435-050 (KR). KIM, Han, Jun [KR/KR]; 231-25 Eungam-Dong, Eunpyoung-Gu, Seoul 122-012 (KR). <b>(72) Inventor; and</b> <b>(75) Inventor/Applicant (for US only):</b> OH, Seung, Mo [KR/KR]; 603-201 Mokryun DooSan Apt., 1054-6 Pumgye 5-Dong, Tongan-Ku, Ahanyang-City, Kyungki-Do 431-085 (KR).		<b>(74) Agents:</b> SOHN, Chang, Kyu et al.; Marine Center Main Building, 17th Floor, 118 Namdaemun-ro 2-ka, Chung-ku, Seoul 100-770 (KR). <b>(81) Designated States:</b> CN, JP, US, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). <b>Published</b> <i>With international search report.</i> <i>In English translation (filed in Korean).</i>

(54) Title: SOLID ELECTROLYTES USING ABSORBENT AND METHODS FOR PREPARING THEM



## (57) Abstract

The present invention relates to a solid electrolyte having conductivity to lithium ion by providing spaces for liquid component and lithium salts to be absorbed by way of introducing an absorbent to the inside of an electrolyte film, a process for preparing the same and a rechargeable lithium cell using the same. As the absorbent, polymers or inorganic materials having not more than 40  $\mu\text{m}$  of particle size can be used. As the polymer binder, any binder of which solubility against the liquid electrolyte is small can be used. The solid electrolyte according to the present invention has the ionic conductivity of more than approximately  $10^{-4}$  S/cm at room temperature. The cell is fabricated from the solid electrolyte together with electrodes by lamination or pressing methods. And, the liquid electrolyte, which is decomposed by moisture, is introduced to a cell just before packaging. Therefore, the solid electrolyte according to the present invention is not affected by the humidity and temperature conditions during the manufacturing of the electrolyte film. In addition, the solid electrolyte according to the present invention has high mechanical strength and little reactivity to lithium metal, and thus is suitable as an electrolyte for rechargeable lithium cells.

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